

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1 - 10 (Canceled)

11. (New) A radiation system (1) comprising:

- a gantry (100) comprising:
 - a static gantry part (140); and
 - a movable gantry part (130) movably supported by said static gantry part (140);
- a radiation head (120) mechanically supported by said movable gantry part (130) and being movable relative said static gantry part (140) in a dedicated spacing in a radiation-shielding separating member (71) between a first position for directing a radiation beam (110) into a first treatment room (61) and a second position for directing said radiation beam (110) into a second treatment room (62), said separating member (71) separating at least said first treatment room (61) and said second treatment room (62); and
- a movable radiation shielding (150) being a part of said movable gantry part (130) and preventing radiation from reaching said second treatment room (62) when said radiation head (120) is in said first position and preventing radiation from reaching said first treatment room (61) when said radiation head (120) is in said second position.

12. (New) The radiation system according to claim 11, wherein said static gantry part (140) is adapted for arrangement in a radiation-shielding separating member (71).

13. (New)The radiation system according to claim 11, wherein said static gantry part (140) is adapted for partly being arranged in said radiationshielding separating member (71) separating at least said first treatment room (61) and said second treatment room (62).

14. (New)The radiation system according to claim 11, wherein said static gantry part (140) is adapted for arrangement in said radiationshielding separating member (71) separating at least said first treatment room (61) and said second treatment room (62).

15. (New)The radiation system according to claim 11, wherein said separating member (71) is selected from at least one of:

- a radiation-shielding partition between said first (61) and second (62) treatment room;
- a radiation-shielding ceiling-floor pair between said first (61) and second (62) treatment room, said first (61) and second (62) treatment room being positioned at different floors.

16. (New)The radiation system according to claim 11, further comprising at least one radiation simulation head (200-1, 200-2), said simulation head (200-1, 200-2) being able to direct a radiation simulation beam (210-1) into said first treatment room (61) simultaneously as said radiation head (120) directs said radiation beam (110) into said second treatment room (62).

17. (New)The radiation system according to claim 16, wherein said radiation simulation head (200-2) is movable on said gantry (100) between said first (61) and second (62) treatment room.

18. (New)The radiation system according to claim 16,

wherein said radiation head (120) is adapted for providing a treatment beam (110) and said radiation simulation head (200) is adapted for providing a treatment simulation beam (210).

19. (New)The radiation system according to claim 11, further comprising:

- a second gantry (100-2) adapted for arrangement in connection with at least said second treatment room (63, 64) and a third treatment room (65, 66) separated by a radiation-shielding separating member (71, 75, 77); and
- a second radiation head (120-1) mechanically supported by said second gantry (100-2), said second radiation head (120-2) being movable relative said second gantry (100-2) between a first position for directing a radiation beam (110-2) into said second treatment room (63, 64) and a second position for directing said radiation beam (110-2) into said third treatment room (65, 66).

20. (New)The radiation system according to claim 19, wherein said radiation head (120-1) and said second radiation head (102-2) are configured for directing said radiation beams (110-1, 110-2) into said second treatment room (63, 64) from different incident angles.

21. (New)The radiation system according to claim 19, further comprising a radiation beam splitter for simultaneously providing radiation from a common radiation source to said first gantry (100-1) and to said second gantry (100-2).

22. (New)The radiation system according to claim 12, wherein said static gantry part (140) is adapted for partly being arranged in said radiationshielding separating member (71) separating at least said first treatment room (61) and said second treatment room (62).

23. (New) The radiation system according to claim 17, wherein said radiation head (120) is adapted for providing a treatment beam (110) and said radiation simulation head (200) is adapted for providing a treatment simulation beam (210).

24. (New) The radiation system according to claim 20, further comprising a radiation beam splitter for simultaneously providing radiation from a common radiation source to said first gantry (100-1) and to said second gantry (100-2).